

CHESTER, PENNSYLVANIA

*A Leading Center of American
Industry and Commerce*

Suburban Electrification
Shippers' Advisory Boards
The New Era in Railroading
Co-ordinated Transport System
of the Future



Address of J. W. Roberts, General Superintendent
of Transportation, Eastern Region, Pennsylvania
Railroad, before the Chester Kiwanis Club,
May 16, 1928.

“Pennsylvania Railroad Day”



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MR. PRESIDENT, MEMBERS OF THE KIWANIS CLUB,
AND GUESTS:

It is a very graceful compliment you have paid our Company in designating this occasion "Pennsylvania Railroad Day."

My first duty—and it is a pleasure as well—is to convey to you the thanks of our management for a tribute which speaks so eloquently of the friendly relations between our railroad and the industries which crowd this wonderful producing territory, of which the City of Chester is the center.

The backbone of the Pennsylvania Railroad's traffic is its industrial freight, and by that I include not only the finished output of industry but its raw materials and the fuels which supply its power.

Vital Importance of Industrial Traffic

It is true, our Company is also a great carrier of the products derived from farms, grazing lands and forests, because we serve a vast population which must be fed, clothed and housed. Nevertheless, taking 1927 as typical, we find that manufactured articles yielded over 26% of our traffic and

coal and other minerals 61% more, a total in excess of 87%. Making liberal allowance for the coal used for heating and cooking, it is certainly safe to say that well over 80% of the total freight tonnage of the Pennsylvania Railroad System, under normal conditions, consists of the fuel, materials and output of industry.

Scope and Diversity of Productive Enterprises

Hence we feel that we are particularly at home here in this busy and prosperous Chester district. I am told that for its area and population it surpasses any other of the United States in the volume and value of its industrial output. This is not hard to believe. Taking the Delaware River water front and immediately adjacent territory alone, and starting with the great electrical manufacturing plant on what may be termed the northern boundary of the Chester district, and ending with the vast steel plant just across the Delaware border on the south, we have in between, on a mammoth scale, locomotive building, machinery construction, the production of print cloth, ship-building and ship repairs; the making of refractories, the manufacture of paper, ice, steel castings and tubes, yarn and rayon; dye-wood production, drop forging, rubber goods, and coke production; a mammoth automobile assembling plant; and one of the most important regions in the world for the refining of petroleum and the production and sale of its derivatives.

More removed from the water front are many other busy plants, both large and small. It is indeed a subject for congratulation that Chester and its manufacturing district enjoy a great diversity not

only in character of products but in the magnitude of the various industrial enterprises which are located here. It would be possible to mention a dozen or more, names of which are known the world over and which represent the corporate development of industry on the greatest scale of magnitude with hundreds of thousands of stockholders and millions and hundreds of millions of dollars invested capital. At the other extreme there is a healthy scattering of smaller plants, representing the enterprise of one or a few individuals, and reminding us of the fact that the mill or factory of small or moderate size, under progressive and enlightened management, still has its place and function in our industrial civilization.

It is, of course, not accidental that industry is concentrating here in so noteworthy a degree. The term "natural advantages" is more or less a trite phrase, but here at least it has a real meaning. The geographical situation of Chester on the deep channel of a fresh-water harbor is certainly a natural advantage of the first rank, as is also its nearness to the great centers of population, without their congestion and high living costs. Last in order I mention the splendid railroad facilities which Chester enjoys, served by three important systems, and as a railroad man I hope I will be pardoned of the charge of egotism if I add that in importance this is perhaps really the first of Chester's advantages.

Growth of Railroad Traffic in Chester

It may interest you to know in this connection that our freight traffic in and out of Chester has increased approximately one thousand per cent. in the last two decades and is still growing steadily.

Mr. Allen, our Freight Agent here, who has the honor of membership in this Club, has very kindly furnished some information regarding our freight traffic in the Chester district, which presents some quite striking features. Our total business, inbound and outbound, approaches 100,000 carloads annually. Roughly, we handle three outbound cars for every two inbound.

A study of a typical single day's outbound business made by Mr. Allen shows the astounding diversity, as well as extent, of the traffic. On the day in question, the Pennsylvania Railroad received freight cars from 72 different shippers here. They were consigned to 617 destinations, and consisted of 249 different commodities. The aggregate number of miles which these shipments traveled was 233,818, or an average of 379 miles per shipment.

These facts, from only one of the three railroads serving the Chester district, emphasize the extent to which your progressive business men have utilized their opportunities in building up nation-wide markets, to say nothing of a great export trade.

Exceptional Efficiency of Chester's Workers

Beside the so-called natural advantages which are of a geographical nature, the success of Chester must be attributed in no small degree to the fine industrial traditions centering here for many years, which have had the effect of attracting and holding in this locality an unusually high class of labor. In large part this traces back to the sound and far-seeing policies of the famous ship-building firm started here in an earlier generation, originally as a family enterprise. Of it a Philadelphia newspaper has said that

this business of bygone years, under the able management of its owners, "educated an army of the most skillful mechanics in the world." The comment adds: "They became masters in their own and kindred mechanical lines. They set such a high standard of efficiency that it has left its imprint upon all the labor of Chester."

Railroad Electrification to Chester and Wilmington

It is an interesting fact that a city so ultra-modern in its commerce and industry should have a history so ancient. Philadelphians are justly proud of the historic associations of their city, but they should not forget that Chester is the oldest town in the State, and that William Penn chose this as his landing place on his first visit to his great colony in the New World. I do not recall that William Penn's views on the Chester of that day have been recorded; doubtless he would have been more than skeptical of any prediction that the village he then saw would grow into one of the great manufacturing centers in the United States, shipping its products by rail to every American market and by water to every port of the world. I might go on more or less indefinitely giving impressions of Chester as seen by an outsider, but I realize that, having invited a railroad man to be here today, you expect to hear something about transportation matters. As you have not expressed any preference as to the particular subject to be treated, several phases of the situation occur to me as being appropriate for brief discussion.

I suppose everyone in Chester is genuinely interested in the plans of the Pennsylvania Railroad for electrifying the main line of its Southern Division

through this city to handle the local and suburban service between Philadelphia, Chester, Wilmington and intermediate points. The project also takes in that part of the Octoraro Branch between Philadelphia, Swarthmore, Media, Wawa, West Chester and intermediate stations.

The Benefits of Electrified Service

The immediate purpose of this improvement is, as many of you are aware, to pave the way for completion of our new passenger terminal in Philadelphia. The main station where all trains, both through and local, will stop is to be located on the west bank of the Schuylkill River, just north of Market Street. For the convenience of commuters and frequent travelers from nearby points who desire to reach the center of Philadelphia without change of cars, we are including in the general terminal plans an underground station which will be located approximately at 16th Street and the Parkway. This will connect with the main station by a subway of considerable length and a bridge over the Schuylkill River.

On account of the impracticability of operating steam locomotives through a subway and into an underground station, it is of course necessary that all trains using this station shall be electrically operated. We have for a number of years had the suburban service on our main line to the West electrified as far as Paoli, and the Germantown and Chestnut Hill Branch to Chestnut Hill and White-marsh. It was decided that the service to Chester and Wilmington, as well as to the suburban points on the Octoraro Branch, was of such importance that these trains should also be brought into the

underground station. For that reason we are electrifying these lines.

The benefits which will result are several in number.

First, residents of Chester, and particularly commuters, or more or less regular riders, will retain the advantage which they hitherto enjoyed of being able to use a Philadelphia station in the old retail, financial, hotel and theatrical center of the city.

Second, electric service gives a cleaner ride than can possibly be provided with any form of steam locomotive.

Third, the operation of electric trains is more comfortable to the passengers, particularly on locals or semi-locals where a number of stops are made. The acceleration of a train after a stop is much quicker, and at the same time smoother, than that of a steam train, and the taking up of the "slack" noticeable in long steam trains is entirely eliminated. This is due to the fact that the electric trains which will be used to Chester and Wilmington will be of the same character as those used on the Main Line and the Germantown and Chestnut Hill Branch, namely, the multiple unit type. In this form of operation each car has its own motors. Hence the power available is always directly proportional to the size of the train and all of the cars used in the train will start simultaneously instead of being pulled, one after another, by a locomotive at the head.

Fourth, it will be possible to afford somewhat faster schedules, although I would not wish to create any false impression by leading you to believe that this will be of a revolutionary character. That is not practicable. As a matter of fact, the express train service between Chester and Philadelphia is already very high speed and not a great deal of change

can be expected in it. With reference to the locals, however, more improvement can be made by reason of the feature which I have just mentioned, namely, the quicker acceleration of the train after each stop.

Fifth, reliability and punctuality of the service should be increased, particularly in cold weather when the tractive power of steam locomotives is often considerably reduced.

Gradual Change From Steam to Electricity

The electrification through Chester and all the way to Wilmington is today 95% completed in so far as the total volume of work is concerned. The sub-stations and the power transmission and feed lines are practically finished. The principal work remaining to be done is the track bonding, that is to say, uniting the rails at each joint with conductors so that the flow of electric current will be entirely free from impedancce.

As to the time when electric service will be started, the present plan is to change over from steam to electricity gradually. A few electric trains will be placed in operation during the summer, probably in July or August. Their number will be gradually increased after practical tests show that all apparatus is in proper working order. We expect to put on the full electric service with the Fall change in time-table, which will occur with the cessation of local Daylight Saving Time at the close of September.

You will bear in mind, of course, that even after that Chester will continue to be served by a certain number of steam trains, representing those running beyond Wilmington on the south or beyond Philadelphia on the east and north. The entire local and

suburban service, however, between Wilmington, Chester and Philadelphia will be electrically operated.

From a broad viewpoint the electrification work through Chester constitutes a further step in the comprehensive program of electrification which the Pennsylvania Railroad System initiated in 1905 on the Long Island Railroad. That step was followed later in the same year by initiating the work of electrifying the West Jersey & Seashore Railroad between Camden, Newfield and Atlantic City. In 1910, in connection with the opening of Pennsylvania Station in New York City, the terminal zone in that district was electrified. Between 1915 and 1917 we completed electrification in the suburban territory between Broad Street Station and Paoli, and on the Germantown and Chestnut Hill Branch, which I have already mentioned.

As a result of this program, the Pennsylvania Railroad now has over one-fifth of the electrified route mileage and one-quarter of the electrified track mileage of the entire United States. The electrification through Chester and Wilmington will add $27\frac{1}{2}$ route miles and 100 track miles, and that of the West Chester Branch 25 route miles and 44 track miles.

Electrification of Through Traffic Routes

It is no secret, of course, that we are making progress toward a condition in which ultimately the Pennsylvania Railroad will be electrified all the way from New York to Washington. To avoid misunderstanding, however, I wish to make it clear that this will undoubtedly be a gradual development, requiring some years for consummation, and will only be carried out, step by step, as justified by business

conditions and the extent and growth of traffic demands.

The type of construction which we are using here is similar in its essential feature to that which has proved so successful in the Paoli and Chestnut Hill electrification. It is what is known as the overhead cross catenary system, in which the wires actually supplying the current to the cars are suspended in long curves from cross wires stretched across the track between the poles.

Whenever the name of this system is mentioned someone is apt to ask: "What is a catenary?" The answer is very simple. It is a mathematical term used to describe the curve taken by a cable, rope or chain suspended freely between supports, and is in fact derived from the Latin word "catena," meaning a chain.

I will not spend any more time on the subject of electrification, except to assure you that completion of this work will give Chester the most modern form of transportation known, and in its highest and most completely perfected type of development.

Notable Achievements of Shippers' Advisory Boards

Nothing in connection with my visit here today is more personally gratifying than the knowledge of the keen interest felt by yourselves, and I believe the industrial and business leaders of Chester generally, in the work and achievements of the Shippers' Advisory Boards. I have been closely identified with this work myself since its inception and as part of my regular duties with the Pennsylvania Railroad devote much of my time to it. For a considerable period I have been Chairman of the Rail-

road Contact Committee of the Atlantic States Board, which was organized on January 3, 1924, the first Board—the Northwestern—having been formed nearly a year earlier, on January 16, 1923.

Mutual Understanding Proves Key to Agreement

The success which has attended the efforts of these Boards is something which I feel both the railroads and the shippers of the country have every reason to consider as a just cause for pride and mutual congratulation.

As I view it, two general ideas underlie the work of these Boards and account for the great measure of success which has attended their efforts. First, their existence assumes and recognizes the fact that railroad managers and railroad patrons are reasonable and intelligent men. Second, it is further recognized that if reasonable men have before them all of the facts pertaining to any problem in which they are mutually concerned, and in connection with which there may be a difference of opinion, failures to develop proper solutions acceptable to both sides will be comparatively few.

As a matter of fact in five years this has worked out so well that not a single complaint involving service has had to be brought formally before one of these Boards for adjustment, nor have any gone to the regulative commissions. In other words, in every instance the shippers and the railroad officials have been able to sit down and talk matters over face to face and agree upon a fair and proper course of action. That this has been the case is a credit to both, and a fine tribute to the spirit of American business and the character of the men who direct it.

I feel that the results have been particularly noteworthy here in the East—the territory of the Atlantic States Advisory Board—especially when we take into account the extreme density of the traffic in this region, its complexity, and the vast number and diversity of the different interests involved in our transportation problems.

In passing from this subject I should like to express just one thought. A moment ago I spoke of settling differences face to face, across the table, as being a basic principle of these Boards. We on the Pennsylvania Railroad are rather proud of the fact that this is precisely the method which, even before these Boards came into existence, we introduced for the purpose of adjusting differences between men and management on the lines of our System. I refer, of course, to our Employee Representation Plan, which has now been in operation since 1921, and which has been just as nearly one hundred per cent. successful in its functioning as have the Advisory Boards.

Rail Service Now the Best in History

Now for a brief glance at the general railroad situation. The outstanding facts are the events which have occurred since the termination of the World War, the outlook for railroad progress in the light of our new industrial order, the development of motor vehicles as commercial carriers on a large scale, and the entry of the airplane into the same field.

The United States has always been fortunate in enjoying the best railroad service and facilities of any nation. Today it has by far the best of any

period in its own history. This has been made possible by the rehabilitated credit of the railroads, a more constructive spirit of public regulation, the splendid co-operation of the shipping and traveling public, so well exemplified in the work of the Advisory Boards, and the renewed enthusiasm of railroad managers and employes in the performance of their duties.

Putting the Freight Trains on Regular Schedules

I will not attempt in detail a review of the situation, but will merely point to one or two notable circumstances. In the last seven years the railroads of the United States have put over five billions of dollars of new capital into the improvement and extension of their plants. I am, of course, not referring in any way to expenditures for current maintenance but solely and simply to net additions to the property investment. This, together with the other factors which I have mentioned, has paved the way for almost revolutionary changes in the quality of the service, and particularly in the handling of freight.

As an illustration, up to a comparatively few years ago only 10% of the freight trains on the Pennsylvania Railroad moved on regular schedule, and these were confined practically to livestock and perishables. All other commodities and merchandise moved in trains which were forwarded as the freight accumulated, and there was no certainty at all as to the time of delivery. This condition was characteristic of the railroads of the United States in general.

Now 90% of all of the freight trains on the Pennsylvania Railroad operate on regular schedules,

just like passenger trains; and even the heaviest commodities, in which speed of movement is usually a factor of least consequence, as, for example, coal, are being placed on schedules.

In 1920, a carload of freight shipped from Chicago to New York might arrive in one week, or it might be three weeks or more on the road. At the present time the scheduled arrival is the fourth morning after shipment from Chicago, and you can depend upon delivery being made in that time just about as certainly as you can expect a through passenger train to arrive in accordance with its advertised schedule.

Out of this regularity of freight movement has developed the present method of doing business on what is usually termed the hand-to-mouth plan, by which the merchant, whether wholesaler, jobber or retailer, orders his stock in accordance with known conditions of the market, and with the expectation of being able to dispose of it within a definite time. This has been the effect of spreading orders more evenly, of pulling down the peaks and elevating the valleys in the chart of production and distribution, and of preventing almost entirely over-accumulations of stocks in sellers' hands. It has certainly been one of the most important elements in making possible the record-breaking prolongation of our present era of general prosperity.

New Elements in Our Unexampled Prosperity

There has never been a period in our history when the railroads have justified themselves to the country, and demonstrated the vital necessity of their service and their ability to measure up to the highest demands, as is the case at the present time.

Immediately after the close of the World War, and the return of the railroads to their corporate owners, we passed through a most trying era presenting marked contrasts to the present. I will not dwell at length upon it, as most railroad men and shippers would like to wipe it from their memories. It was an interval of painful recovery from a condition of great disorganization and confusion, but in the end complete rehabilitation was effected.

Future Holds Still Greater Achievements

From that we swung to the present era which, as I have just indicated, has been marked by a tuning up of railroad service to the highest pitch ever known, the expenditure of billions in betterments, the development of the greatest loyalty and efficiency on the part of the working forces, and the most successful administrative policies on the part of the managements.

We seem now to be entering upon a third era, and one which gives every promise of being even more remarkable in its results and achievements. We may expect it to be an era of further readjustment and realignment of existing railroad properties to enable them to improve still more the efficiency of their service and additionally strengthen their financial positions.

Mergers and consolidations which are now so much in the public eye are certainly destined to play a large part in this new era. It is scarcely possible, in the field of business, to imagine anything more complicated or difficult to bring about successfully than these great amalgamations of railroad capital and plant; but we are making progress, and experi-

ence justifies the faith that our transportation leaders and financiers will be equal to the task.

Co-ordination of All Transport Facilities

We are doubtless moving toward a condition in which, while a healthy degree of competition will be maintained, there will be on a very considerable scale an elimination of duplications of service and facilities where these are no longer justified in the public interest. Maintenance of healthy competition is laid down in the Transportation Act as one of the guiding principles in working out consolidations and mergers. This policy can be fully respected and still a considerable amount of direct duplication of service dispensed with.

This means that the output of transportation service, as measured in ton miles and passenger miles of traffic, for each employe hour of labor the country over, will tend to increase, although it is already much higher than at any time in the past. The resulting economies ought to have a further beneficial effect on railroad credit, which is to the highest degree in the public interest, and also make possible additional progress in improving the already high quality of service.

I have already taken much of your time and will conclude with what can be little more than a passing glance at the problems involved in the relations between the railroads, on the one hand, and motor and air transport on the other. There is probably nothing more important or more intensely interesting in the entire field of transportation, and we are fully justified in anticipating developments of far-reaching consequence.

Briefly, a fundamental fact in the situation is that the standard railroads of today are primarily adapted to hauling heavy train-loads over long distances—in other words, to the performance of the kind of service which in the realm of transportation corresponds to mass production in industry. In fact, we may, for short, term it “mass transportation.”

Practically every improvement in railroad facilities takes us a step further in the same direction; that is, makes our railroads better long-distance wholesale carriers, and less adapted to the performance of the retail or short-distance service. Motor vehicles, on the one hand, are supremely adapted to this latter form of service, and their most important function in the commercial field doubtless lies in a proper co-ordination with the railroads. We may therefore expect to see more and more, in the future, a linking up of motor and railroad service, with the motor vehicles operating in and about the terminal zones and the railroads performing the long-distance intermediate hauls.

The Possibilities of Container Car Operation

Container cars probably have real possibilities and may prove to be very important in facilitating this evolution. The whole tendency is to provide the public with a through service, from the door of the shipper to the door of the consignee, by a combination of rail and motor facilities.

In the passenger field, the same general principles are making themselves felt, but in addition there can be no doubt that even over considerable distances the traffic is being perceptibly affected by the auto-

mobile. Strangely enough it is the privately owned car, and not the bus operated for hire, which is exerting its greatest effect. However, no good railroad man any longer begrudges the business which goes to the motor cars, because the motor industry is an enormous producer both of freight and passenger traffic, and undoubtedly gives back to the railroads many times over whatever it takes away.

Steady Growth Shown in Passenger Traffic

In any event, if we make our survey over a considerable period of time, we find that passenger traffic has enjoyed a healthy growth. I have already referred to the enormous increase in our freight business here. We can hardly expect to find a complete parallel in the case of passenger traffic, but I am happy to say that our Chester Passenger Agent, Mr. W. N. Pippin, is able to report that business at the Chester Station is approximately double what it was a dozen years or so ago, and that we have reached a point where some 30,000 tickets a month are being sold. This is a creditable performance and shows that even in this densely populated region where automobiles are so extensively used, there is still a large and growing demand on the part of the public for passenger service by rail. We expect this demand to increase steadily with the more comfortable and pleasant service which will be available when our electrification work is completed.

Commercial air transport is something so new that I doubt very much whether any one in the world has yet formulated even its elements. A considerable number of people understand the art of flying extremely well and more are constantly learn-

ing, but its precise relation to business is something which probably remains to be learned almost in its entirety from future experience.

You have no doubt read of the arrangements which our Company is making to combine railroad and airplane service for the purpose of reducing the time required on certain long-distance trips. The idea is to allow the passenger to have the comfort of the sleeping car over-night and then continue his journey to destination by an airplane flight beginning as early as possible in the morning. By this means such results are attainable as cutting down a 48-hour trip to one of 24 hours or even less, and perhaps reducing the transcontinental journey to about a two-day trip. The outcome of this experiment will be a most interesting one to watch and will doubtless teach us a great deal about the commercial possibilities of the air.

Air Service Likely to Develop New Field

I do not think any railroad men expect to see airplanes supplant passenger train service now or in the future. On the contrary, air service will doubtless develop a new field, the patronage of which will come chiefly from those who are able and willing to pay handsomely for the saving of time; but the mass of people, as far ahead as we can see, will doubtless continue to do their long-distance traveling on the ground.

In conclusion let me say this:

Railroads are now a hundred years old. Their future importance to the country will be greater than in the past. The newer forms of transportation are growing up side by side with them, and the nation

will need the best that each agency can provide. The new era will be one of co-operation and co-ordination, in order that the public may receive the maximum possible benefit from a strong and healthy transport system, the component parts of which will be the railroads, the motor cars and the airships. There will be room for all, and all will be necessary for as far into the future as the wisest man now living can predict.

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